

# 3105 H14 Aluminum Sheet

## Properties

### General

| Property | Temperature | Value                                 |
|----------|-------------|---------------------------------------|
| Density  | 23.0 °C     | <a href="#">2.72 g/cm<sup>3</sup></a> |

### Mechanical

| Property                       | Temperature | Value                          | Comment                                   |
|--------------------------------|-------------|--------------------------------|---|
| Elastic modulus                | 23.0 °C     | <a href="#">69 GPa</a>         |   |
| Elongation A50                 | 23.0 °C     | <a href="#">1 - 5 %</a>        |   |
| Plane-Strain Fracture Toughnes | 23.0 °C     | <a href="#">22 - 35 MPa·√m</a> | Typical for Wrought 3000 Series Aluminium |
| Poisson's ratio                | 23.0 °C     | <a href="#">0.33 [-]</a>       | Typical for Wrought 3000 Series Aluminium |
| Shear modulus                  | 23.0 °C     | <a href="#">25 - 26 GPa</a>    | Typical for Wrought 3000 Series Aluminium |
| Tensile strength               | 23.0 °C     | <a href="#">150 - 200 MPa</a>  |   |
| Yield strength Rp0.2           | 23.0 °C     | <a href="#">125 - 150 MPa</a>  |   |

### Thermal

| Property                         | Temperature | Value                              | Comment                                   |
|----------------------------------|-------------|------------------------------------|---|
| Coefficient of thermal expansion | 20.0 °C     | <a href="#">2.36E-5 1/K</a>        |   |
|                                  | 100.0 °C    | <a href="#">2.36E-5 1/K</a>        |   |
| Melting point                    |             | <a href="#">635 - 655 °C</a>       |   |
| Specific heat capacity           | 23.0 °C     | <a href="#">893 - 920 J/(kg·K)</a> | Typical for Wrought 3000 Series Aluminium |
| Thermal conductivity             | 23.0 °C     | <a href="#">172 W/(m·K)</a>        |   |

## Electrical

| Property                | Temperature | Value                       |
|-------------------------|-------------|-----------------------------|
| Electrical conductivity | 23.0 °C     | <a href="#">2.60E+7 S/m</a> |
| Electrical resistivity  | 23.0 °C     | <a href="#">3.85E-8 Ω·m</a> |

## Chemical properties

| Property  | Value                          |
|-----------|--------------------------------|
| Chromium  | <a href="#">0.2 %</a>          |
| Copper    | <a href="#">0.3 %</a>          |
| Iron      | <a href="#">0.7 %</a>          |
| Magnesium | <a href="#">0.2 - 0.8 %</a>    |
| Manganese | <a href="#">0.3 - 0.8 %</a>    |
| Other     | each 0.05, total 0.15, Rest Al |
| Silicon   | <a href="#">0.6 %</a>          |

Titanium [0.1 %](#)

---

Zinc [0.4 %](#)

---

## Technological properties

### Property

**Brazing** general: possible with commercial processes and methods

---

**Corrosion properties** Stress corrosion cracking: no damage during operation and laboratory tests, general: very good, without protection in industrial or seawater atmosphere

---

**General machinability** General: not suitable (O, H12), poor (H14, H25, H16, H18)

---

**Workability** general (condition): good (O), acceptable (H12, H14, H25), poor(H16, H18)

---